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# C-A OPERATIONS PROCEDURES MANUAL

## 15.3.5.2 Westinghouse Motor-Generator Rotation Using External Gear Box

(Booster/AGS Ring Power Supply Systems Group Procedure EPS-W-002)

Note: This document was formerly a C-A Group Procedure. The content of the group procedure was reviewed by the Technical Supervisor. All approvals and/or issue dates of the original group procedure are maintained for present use.

### Hand Processed Changes

<u>HPC No.</u>	<u>Date</u>	<u>Page Nos.</u>	<u>Initials</u>
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Approved: \_\_\_\_\_ *Signature on File* \_\_\_\_\_  
 Collider-Accelerator Department Chairman                      Date

M. Bannon

Booster/AGS Ring Power Supply Systems  
Group Procedure EPS-W-002  
Revision 00

## 15.3.5.2 Westinghouse Motor-Generator Rotation Using External Gear Box

### 1.0 Purpose:

- 1.1 To rotate Westinghouse motor-generator set up to approximately 8 RPM weekly while MG set is not in use. Rotating set will serve multiple purposes. Circulate the oil in the system.
  - 1.1.1 Exercise the lift pumps and circulating pump.
  - 1.1.2 Lift the rotor up off the bearing surfaces and rotate shaft not allowing it to lie in one position for long periods of time.
  - 1.1.3 Lifting the rotor off the bearing surfaces will also help in preventing the bearings from getting flat spots.

### 2.0 Procedure: Fill out this checklist as you go to insure procedures are done correctly.

#### Note:

When rotating the MG set using this motor drive you must stay in the MG Room and keep an eye on the lift pump pressures as well as the pedestal oil flow. If any lift pump pressure drops the gear drive 480 VAC 3PH will turn off.

- 2.1 Turn the 3PH, 208VAC FDS (FDS A11-NE5) for the lift pumps. [ ]
- 2.2 Turn on the 3 PH, 480 VAC FDS (DP-A44-1 FS#4) for hydraulics and now the gear drive. [ ]
- 2.3 In RK5531 press the stand-by power button in the motor controls section. [ ]
- 2.4 Verify there is lift pressure at each pedestal.
  - a) Ped. #1 approx. 375 PSI [ ]
  - b) Ped. #2 approx. 600 PSI [ ]
  - c) Ped. #3 approx. 1100 PSI [ ]
  - d) Ped. #4 approx. 550 PSI [ ]
- 2.5 Verify there is oil flow to each pedestal.
  - a) Ped. #1 approx. 1.25 GPM [ ]
  - b) Ped. #2 approx. 6.0 GPM [ ]
  - c) Ped. #3 approx. 5.0 GPM [ ]
  - d) Ped. #4 approx. 7.0 GPM [ ]
- 2.6 If pressure at each ped. are good then the F pressure at each end are good then the PLC output ST:30 O:013/01 will be high, which will energize 42GD XK11 IN RK 5548. (If output **ST:30 O:013/01** is not high, check PLC **inputs ST:30 I:003/06,07,10,11,12** all 5 of these input must be high for output O:013/01 to be high.) [ ]

- 2.7 Relay 42GDK12 should also be energized in RK 5548 if all the starters for the lift pumps and circulating pump are closed. [ ]
- 2.8 Make sure the speed control pointer on the motor drive gear box is on the 0 position. If it is not, turn handle counterclockwise until it is at 0 position.
- a) Press the “ON” push button on the 480 VAC starter for the gear box drive. [ ]
  - b) The motor drive should start to turn the MG set @ approx. 2 RPM while in position 0. [ ]
- 2.9 Rotate handle on motor drive until desired RPM is reached as per chart below: (Rotate handle in clockwise direction to increase the RPM. Settings below are approx. RPM). [ ]
- |         |       |
|---------|-------|
| POS 2   | RPM=3 |
| POS 2.5 | RPM=4 |
| POS 3   | RPM=5 |
| POS 3.5 | RPM=6 |
| POS 3.9 | RPM=8 |
- 2.10 To stop set, rotate motor drive slowly back to the 0 position. [ ]
- 2.11 Then press the 480 VAC 3 PH starter “OFF” push button. [ ]
- 2.12 Secure the 480 VAC 3 PH for the gear drive-FDS (DP-A44-1 FS#4). [ ]
- 2.13 Secure the 208 VAC 3 PH for the lift pump FDS (A11-NE5). [ ]

**ATTACHMENT**  
Westinghouse Rotation Log Sheet

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